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TestAmerica Laboratories, Inc.

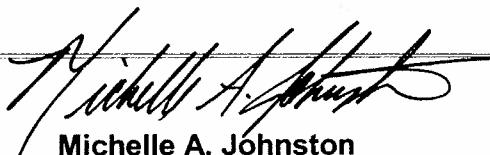
ANALYTICAL REPORT

Perfluorocarbon (PFC) Analysis

Lot #: D9H250123

Dena Haverland

Dalton Utilities
1200 V.D. Parrot Jr. Parkway
Dalton, GA 30721



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Project Manager

September 21, 2009

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Case Narrative D9H250123

TestAmerica Denver utilizes USEPA approved methods in all analytical work. The samples presented in this report were analyzed for the parameters listed on the methods summary page in accordance with the methods indicated. Dilution factors and footnotes are provided on each datasheet to assist in the interpretation of the results.

The results relate only to the samples in this report and meet all requirements of NELAC. All data have been reviewed for compliance with the laboratory QA/QC plan and have found to be compliant with laboratory protocols with any exceptions noted below.

Please note that Non-Detect (ND) results have been evaluated down to the Method Detection Limit (MDL) and should be considered ND at the MDL. Unless otherwise noted, results for solids have been dry weight corrected.

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Sample Arrival and Receipt

The following report contains the analytical results for eight samples received at TestAmerica Denver on August 25, 2009, according to documented sample acceptance procedures. The samples were received in good condition at a temperature of 1.1°C. No anomalies were encountered during sample receipt.

Standards

Analytical standards were prepared using commercially available certified solutions containing all compounds of interest.

The mass labeled compounds 13C4 PFBA, 13C2 PFHxA, 18O2 PFHxS, 13C4 PFOA, 13C4 PFOS, 13C5 PFNA, 13C2 PFDA, 13C2 PFUnA, 13C2 PFDoA, and D3 MeFOSA were introduced at the extraction step and were used for internal standards for the quantitation of the target compounds.

Sample Extraction and Analysis

The samples presented in this report were extracted for the target analytes by TestAmerica Denver's Standard Operating Procedure (SOP) DV-OP-0019 and analyzed for the target analytes by TestAmerica Denver's SOP DV-LC-0012.

Method QC Samples

The Method Blank is processed reagent water spiked with surrogate and prepared with each batch of 20 samples of the same matrix. The method blanks were non-detect at the reporting limits for the target analytes.

Each batch is prepared with low and mid level Laboratory Control Samples (LCS). The LCS recoveries for both levels were within established control limits, with the exception of the items noted in section Analytical Comments.

Analytical Comments

Please note during the FOSA extraction process all eight samples clogged the cartridge; therefore, the organic preparation chemist had to use two cartridges for each of these samples.

Due to low internal standard recoveries in the samples, samples #34 206 MEADOW DR, #35 4279 BROWN'S BRIDGE RD, #36 3950 BROWN'S BRIDGE RD, #37 3799 BROWN'S BRIDGE RD, #38 3677 BROWN'S BRIDGE RD, and #40 3764 BROWN'S BRIDGE RD were re-extracted out of the laboratory prescribed hold time and reanalyzed in QC batch 9259162. Both batches are included in this report. Please note the sample results should be considered estimated.

The Standard Operating Procedure (SOP) was altered slightly in the sample preparation for FOSA. Sodium hydroxide was added to all eight samples to obtain a pH of 14 instead of the SOP required <2. The basic pH is generating better internal standard recoveries for MeFOSA.

The Standard Operating Procedure (SOP) was altered slightly in the sample preparation for FOSA for batch 9259162. Strata-XL cartridges were used instead of the SOP required Strata-X. This was done to help minimize the clogging problems in these samples. The Strata-XL has a larger pore size allowing more viscous sample matrix to be extracted.

The internal standard recoveries for Me FOSA were recovered below 50% in samples #34 206 Meadow Dr, #35 4279 Brown's Bridge Rd, #36 3950 Brown's Bridge Rd, #37 3799 Brown's Bridge Rd, #38 3677 Brown's Bridge Rd, #39 3660 Brown's Bridge Rd, and #40 3764 Brown's Bridge Rd. Upon re-extraction past hold time and reanalysis in QC batch 9259162, surrogate recoveries were 100% in control in samples #34 206 Meadow Dr, #35 4279 Brown's Bridge Rd, #36 3950 Brown's Bridge Rd, #37 3799 Brown's Bridge Rd, #38 3677 Brown's Bridge Rd, and #40 3764 Brown's Bridge Rd. Upon re-extraction past hold time and reanalysis in QC batch 9259162, surrogate recovery outliers were still present in sample #39 3660 Brown's Bridge Rd, demonstrating this anomaly is most likely due to matrix interference. Both the original and reanalysis data have been provided for samples #34 206 Meadow Dr, #35 4279 Brown's Bridge Rd, #36 3950 Brown's Bridge Rd, #37 3799 Brown's Bridge Rd, #38 3677 Brown's Bridge Rd, and #40 3764 Brown's Bridge Rd, as re-extraction was unavoidably performed outside the laboratory recommended sample holding time. The original analysis data has been provided for sample #39 3660 Brown's Bridge Rd.

The low-level LCS analyses associated with QC batches 9239343 and 9259162 exhibited percent recoveries above the QC control limits for Perfluorooctane sulfonamide (FOSA). This is an indicator that data may be biased high. As no detectable FOSA concentrations are present in the associated samples, corrective action is deemed unnecessary.

The method required MS/MSD analyses could not be performed for QC batches 9239343, 9239360, and 9259162, due to insufficient sample volume. Method precision and accuracy have been verified by the acceptable low-level LCS and mid-level LCS/LCSD analyses data.

No other anomalies were observed.

EXECUTIVE SUMMARY - Detection Highlights

D9H250123

PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
#36 3950 BROWN'S BRIDGE RD 08/24/09 14:54 003				
Perfluorobutanoic acid (PFBA)	0.0068 J	0.020	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.0040 J	0.020	ug/L	DEN -LC-0012
#37 3799 BROWN'S BRIDGE RD 08/24/09 15:13 004				
Perfluoroctanoic Acid	0.011 J	0.020	ug/L	DEN -LC-0012
Perfluoroctanesulfonate	0.043	0.020	ug/L	DEN -LC-0012
Perfluorobutanoic acid (PFBA)	0.010 J	0.020	ug/L	DEN -LC-0012
Perfluoropentanoic acid (PFPA)	0.013 J	0.030	ug/L	DEN -LC-0012
Perfluorohexanoic acid (PFHxA)	0.0085 J	0.020	ug/L	DEN -LC-0012

METHODS SUMMARY

D9H250123

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
LC/MS/MS PFCS	DEN -LC-0012	SW846 FOSA spec

References:

DEN Severn Trent Laboratores, Denver, Facility Standard
Operating Procedure.

METHOD / ANALYST SUMMARY

D9H250123

<u>ANALYTICAL METHOD</u>	<u>ANALYST</u>	<u>ANALYST ID</u>
DEN -LC-0012	Jacqueline Bonnett	003601

References:

DEN Severn Trent Laboratores, Denver, Facility Standard
Operating Procedure.

SAMPLE SUMMARY

D9H250123



WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
LJN83	001	#34 206 MEADOW DR	08/24/09	13:25
LJN86	002	#35 4279 BROWN'S BRIDGE RD	08/24/09	14:24
LJN88	003	#36 3950 BROWN'S BRIDGE RD	08/24/09	14:54
LJN89	004	#37 3799 BROWN'S BRIDGE RD	08/24/09	15:13
LJN9A	005	#38 3677 BROWN'S BRIDGE RD	08/24/09	15:33
LJN9C	006	#39 3660 BROWN'S BRIDGE RD	08/24/09	15:52
LJN9D	007	#40 3764 BROWN'S BRIDGE RD	08/24/09	16:07
LJN9E	008	TRIP BLANK	08/24/09	16:45

NOTE (S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

Dalton Utilities

Client Sample ID: #34 206 MEADOW DR

HPLC

Lot-Sample #....: D9H250123-001 Work Order #....: LJN831AA Matrix.....: WATER
 Date Sampled....: 08/24/09 13:25 Date Received..: 08/25/09
 Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
 Prep Batch #....: 9239360 Analysis Time...: 00:09
 Dilution Factor: 1 Method.....: DEN -LC-0012

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUn A)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDo A)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFT riA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (P FTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFB S)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFH xs)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY
		LIMITS
13C4 PFOA	110	(50 - 200)
13C4 PFOS	69	(50 - 200)
13C4 PFBA	94	(50 - 200)
13C2 PFHxA	109	(50 - 200)
18O2 PFHxS	95	(50 - 200)
13C5 PFNA	87	(50 - 200)
13C2 PFDA	73	(50 - 200)
13C2 PFUnA	75	(50 - 200)
13C2 PFDoA	74	(50 - 200)

Dalton Utilities

Client Sample ID: #34 206 MEADOW DR

HPLC

Lot-Sample #....: D9H250123-001 Work Order #....: LJN831AC Matrix.....: WATER
Date Sampled....: 08/24/09 13:25 Date Received...: 08/25/09
Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
Prep Batch #....: 9239343 Analysis Time...: 17:18
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
MeFOSA	47 *	(50 - 200)	

NOTE (S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #34 206 MEADOW DR

HPLC

Lot-Sample #: D9H250123-001 Work Order #: LJN832AC Matrix.....: WATER
Date Sampled...: 08/24/09 13:25 Date Received...: 08/25/09
Prep Date.....: 09/16/09 Analysis Date...: 09/18/09
Prep Batch #: 9259162 Analysis Time...: 23:34
Dilution Factor: 1 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT	RECOVERY	
		RECOVERY	LIMITS
MeFOSA	77	(50 - 200)	

Dalton Utilities



Client Sample ID: #35 4279 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-002 Work Order #....: LUN861AA Matrix.....: WATER
 Date Sampled....: 08/24/09 14:24 Date Received...: 08/25/09
 Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
 Prep Batch #....: 9239360 Analysis Time...: 00:25
 Dilution Factor: 1
 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
13C4 PFOA	102	(50 - 200)
13C4 PFOS	69	(50 - 200)
13C4 PFBA	90	(50 - 200)
13C2 PFHxA	110	(50 - 200)
18O2 PFHxS	89	(50 - 200)
13C5 PFNA	87	(50 - 200)
13C2 PFDA	68	(50 - 200)
13C2 PFUnA	67	(50 - 200)
13C2 PFDoA	68	(50 - 200)



Dalton Utilities

Client Sample ID: #35 4279 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-002 Work Order #....: LJN861AC Matrix.....: WATER
Date Sampled....: 08/24/09 14:24 Date Received..: 08/25/09
Prep Date.....: 08/27/09 Analysis Date..: 08/29/09
Prep Batch #....: 9239343 Analysis Time..: 17:25
Dilution Factor: 1 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
MeFOSA	29 *	(50 - 200)		

NOTE(S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #35 4279 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-002 Work Order #....: LJN862AC Matrix.....: WATER
Date Sampled....: 08/24/09 14:24 Date Received...: 08/25/09
Prep Date.....: 09/16/09 Analysis Date...: 09/18/09
Prep Batch #....: 9259162 Analysis Time...: 23:42
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	(50 - 200)	
MeOSA	61			

Dalton Utilities

Client Sample ID: #36 3950 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-003 Work Order #....: LJN881AA Matrix.....: WATER
 Date Sampled....: 08/24/09 14:54 Date Received...: 08/25/09
 Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
 Prep Batch #....: 9239360 Analysis Time...: 00:41
 Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	0.0068 J	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	0.0040 J	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUn A)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDo A)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFT riA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFB S)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFH xs)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
13C4 PFOA	97	(50	- 200)
13C4 PFOS	68	(50	- 200)
13C4 PFBA	89	(50	- 200)
13C2 PFHxA	108	(50	- 200)
18O2 PFHxS	84	(50	- 200)
13C5 PFNA	85	(50	- 200)
13C2 PFDA	67	(50	- 200)
13C2 PFUnA	67	(50	- 200)
13C2 PFDoA	73	(50	- 200)

NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: #36 3950 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-003 Work Order #....: LJN881AC Matrix.....: WATER
Date Sampled....: 08/24/09 14:54 Date Received...: 08/25/09
Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
Prep Batch #....: 9239343 Analysis Time...: 17:33
Dilution Factor: 1 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
		(50	- 200)
MeFOSA	42 *		

NOTE(S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #36 3950 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-003 Work Order #....: LJN882AC Matrix.....: WATER
Date Sampled....: 08/24/09 14:54 Date Received...: 08/25/09
Prep Date.....: 09/16/09 Analysis Date...: 09/18/09
Prep Batch #....: 9259162 Analysis Time...: 23:49
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
MeFOSA	52	(50 - 200)		

Dalton Utilities

Client Sample ID: #37 3799 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-004 Work Order #....: LJN891AA Matrix.....: WATER
 Date Sampled....: 08/24/09 15:13 Date Received...: 08/25/09
 Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
 Prep Batch #....: 9239360 Analysis Time...: 00:57
 Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	0.011 J	0.020	ug/L	0.0055
Perfluorooctanesulfonate	0.043	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	0.010 J	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	0.013 J	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	0.0085 J	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
13C4 PFOA	101	(50	- 200)
13C4 PFOS	65	(50	- 200)
13C4 PFBA	92	(50	- 200)
13C2 PFHxA	110	(50	- 200)
18O2 PFHxS	89	(50	- 200)
13C5 PFNA	89	(50	- 200)
13C2 PFDA	70	(50	- 200)
13C2 PFUnA	65	(50	- 200)
13C2 PFDoA	65	(50	- 200)

NOTE(S) :

J Estimated result. Result is less than RL.

Dalton Utilities

Client Sample ID: #37 3799 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-004 Work Order #....: LJN891AC Matrix.....: WATER
Date Sampled....: 08/24/09 15:13 Date Received...: 08/25/09
Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
Prep Batch #....: 9239343 Analysis Time...: 17:40
Dilution Factor: 1

Method.....: DEN -LC-0012

REPORTING				
PARAMETER	RESULT	LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057
<hr/>				
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	<hr/>	
MeFOSA	45 *	(50 - 200)	<hr/>	

NOTE(S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #37 3799 BROWN'S BRIDGE RD

HPLC

Lot-Sample #: D9H250123-004 Work Order #: LJN892AC Matrix.....: WATER
Date Sampled...: 08/24/09 15:13 Date Received...: 08/25/09
Prep Date.....: 09/16/09 Analysis Date...: 09/18/09
Prep Batch #: 9259162 Analysis Time...: 23:56
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057
<hr/>				
SURROGATE	PERCENT	RECOVERY		
	RECOVERY	LIMITS		
MeFOSA	54	(50 - 200)		

Dalton Utilities

Client Sample ID: #38 3677 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-005 **Work Order #....:** LJN9A1AA **Matrix.....:** WATER
Date Sampled....: 08/24/09 15:33 **Date Received..:** 08/25/09
Prep Date.....: 08/27/09 **Analysis Date..:** 08/29/09
Prep Batch #....: 9239360 **Analysis Time..:** 01:13
Dilution Factor: 1 **Method.....:** DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

<u>SURROGATE</u>	<u>PERCENT RECOVERY</u>	RECOVERY
		<u>LIMITS</u>
13C4 PFOA	103	(50 - 200)
13C4 PFOS	74	(50 - 200)
13C4 PFBA	100	(50 - 200)
13C2 PFHxA	117	(50 - 200)
18O2 PFHxS	98	(50 - 200)
13C5 PFNA	96	(50 - 200)
13C2 PFDA	76	(50 - 200)
13C2 PFUnA	72	(50 - 200)
13C2 PFDmA	80	(50 - 200)

Dalton Utilities

Client Sample ID: #38 3677 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-005 Work Order #....: LJN9A1AC Matrix.....: WATER
Date Sampled....: 08/24/09 15:33 Date Received...: 08/25/09
Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
Prep Batch #....: 9239343 Analysis Time...: 17:47
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057
SURROGATE		RECOVERY LIMITS		
MeFOSA	PERCENT RECOVERY 23 *	(50 - 200)		

NOTE (S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #38 3677 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-005 Work Order #....: LJN9A2AC Matrix.....: WATER
Date Sampled....: 08/24/09 15:33 Date Received...: 08/25/09
Prep Date.....: 09/16/09 Analysis Date...: 09/19/09
Prep Batch #....: 9259162 Analysis Time...: 00:03
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057
SURROGATE	PERCENT	RECOVERY	LIMITS	
MeFOSA	52	(50 - 200)		

Dalton Utilities

Client Sample ID: #39 3660 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-006 Work Order #....: LJN9C1AA Matrix.....: WATER
 Date Sampled...: 08/24/09 15:52 Date Received...: 08/25/09
 Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
 Prep Batch #....: 9239360 Analysis Time...: 01:45
 Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFTria)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY
		LIMITS
13C4 PFOA	103	(50 - 200)
13C4 PFOS	70	(50 - 200)
13C4 PFBA	95	(50 - 200)
13C2 PFHxA	110	(50 - 200)
18O2 PFHxS	93	(50 - 200)
13C5 PFNA	92	(50 - 200)
13C2 PFDA	71	(50 - 200)
13C2 PFUnA	70	(50 - 200)
13C2 PFDoA	79	(50 - 200)

Dalton Utilities

Client Sample ID: #39 3660 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-006 Work Order #....: LJN9C1AC Matrix.....: WATER
Date Sampled....: 08/24/09 15:52 Date Received...: 08/25/09
Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
Prep Batch #....: 9239343 Analysis Time...: 17:54
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	"
MeFOSA	27 *	(50 - 200)	"

NOTE (S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities



Client Sample ID: #40 3764 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-007 Work Order #....: LJN9D1AA Matrix.....: WATER
 Date Sampled....: 08/24/09 16:07 Date Received...: 08/25/09
 Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
 Prep Batch #....: 9239360 Analysis Time...: 02:01
 Dilution Factor: 1 Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUn A)	ND	0.020	ug/L	0.0025
Perfluorododecanoic acid (PFDo A)	ND	0.020	ug/L	0.0040
Perfluorotridecanoic acid (PFT riA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (P FTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFB S)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFH xs)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	
13C4 PFOA	107	(50	- 200)
13C4 PFOS	64	(50	- 200)
13C4 PFBA	96	(50	- 200)
13C2 PFHxA	112	(50	- 200)
18O2 PFHxS	93	(50	- 200)
13C5 PFNA	89	(50	- 200)
13C2 PFDA	68	(50	- 200)
13C2 PFUnA	59	(50	- 200)
13C2 PFDoA	60	(50	- 200)

Dalton Utilities

Client Sample ID: #40 3764 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-007 Work Order #....: LJN9D1AC Matrix.....: WATER
Date Sampled....: 08/24/09 16:07 Date Received...: 08/25/09
Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
Prep Batch #....: 9239343 Analysis Time...: 18:01
Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	(50 - 200)
MeFOSA	47 *	(50 - 200)	

NOTE(S) :

* Surrogate recovery is outside stated control limits.

Dalton Utilities

Client Sample ID: #40 3764 BROWN'S BRIDGE RD

HPLC

Lot-Sample #....: D9H250123-007 Work Order #....: LJN9D2AC Matrix.....: WATER
 Date Sampled....: 08/24/09 16:07 Date Received..: 08/25/09
 Prep Date.....: 09/16/09 Analysis Date...: 09/19/09
 Prep Batch #....: 9259162 Analysis Time...: 00:17
 Dilution Factor: 1 Method.....: DEN -LC-0012

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057
<u>SURROGATE</u>	<u>PERCENT</u>	RECOVERY		
MeFOSA	64	LIMITS		
		(50 - 200)		

Dalton Utilities

Client Sample ID: TRIP BLANK

HPLC

Lot-Sample #....: D9H250123-008 Work Order #....: LJN9E1AA Matrix.....: WATER
 Date Sampled....: 08/24/09 16:45 Date Received..: 08/25/09
 Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
 Prep Batch #....: 9239360 Analysis Time...: 02:18
 Dilution Factor: 1

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctanoic Acid	ND	0.020	ug/L	0.0055
Perfluorooctanesulfonate	ND	0.020	ug/L	0.0068
Perfluorobutanoic acid (PFBA)	ND	0.020	ug/L	0.0062
Perfluoropentanoic acid (PFPA)	ND	0.030	ug/L	0.0082
Perfluorohexanoic acid (PFHxA)	ND	0.020	ug/L	0.0030
Perfluoroheptanoic acid (PFHpA)	ND	0.020	ug/L	0.0054
)				
Perfluorononanoic acid (PFNA)	ND	0.020	ug/L	0.0065
Perfluorodecanoic acid (PFDA)	ND	0.020	ug/L	0.0026
Perfluoroundecanoic acid (PFUnA)	ND	0.020	ug/L	0.0025
A)				
Perfluorododecanoic acid (PFDoA)	ND	0.020	ug/L	0.0040
A)				
Perfluorotridecanoic acid (PFTriA)	ND	0.020	ug/L	0.0072
Perfluorotetradecanoic acid (PFTeA)	ND	0.020	ug/L	0.0087
Perfluorobutane sulfonate (PFBS)	ND	0.020	ug/L	0.0045
Perfluorohexane sulfonate (PFHxsS)	ND	0.030	ug/L	0.0084

SURROGATE	PERCENT RECOVERY	RECOVERY
		LIMITS
13C4 PFOA	98	(50 - 200)
13C4 PFOS	71	(50 - 200)
13C4 PFBA	83	(50 - 200)
13C2 PFHxA	98	(50 - 200)
18O2 PFHxS	80	(50 - 200)
13C5 PFNA	93	(50 - 200)
13C2 PFDA	79	(50 - 200)
13C2 PFUnA	70	(50 - 200)
13C2 PFDoA	62	(50 - 200)

Dalton Utilities

Client Sample ID: TRIP BLANK

HPLC

Lot-Sample #....: D9H250123-008 Work Order #....: LJN9E1AC
Date Sampled....: 08/24/09 16:45 Date Received...: 08/25/09
Prep Date.....: 08/27/09 Analysis Date...: 08/29/09
Prep Batch #....: 9239343 Analysis Time...: 18:08
Dilution Factor: 1

Matrix.....: WATER

Method.....: DEN -LC-0012

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
Perfluorooctane sulfonamide (F OSA)	ND	0.050	ug/L	0.0057

SURROGATE	PERCENT RECOVERY	RECOVERY	
		LIMITS	(50 - 200)
MeFOSA	55		